

Fred - Is this the issue you saw? (cover & some pages removed)
VHF/UHF and ABOVE
May 1985
220 MHZ NEWS

By: Ed Gray - WØSD
Route 2
Salem, S. D. 57058

(KØHPK)
Editor

Ron-KØALL of Fargo, N. D. reports that he is putting up some big KLM antennas for 220 EME and is anxiously looking for schedules. He is also anxious for any 220 Meteor scatter schedules. Basically we have got the whole meteor scatter season ahead of us, so if you need North Dakota on 220, you have a super chance to work the state. I've talked to Ron and worked him many times and am always impressed by his dedication to making a successful contact, so don't pass this opportunity on 220. Ron has some channel 13 problems so he may have to run late at night.

It is time to again plead for news. You send me news and it will be published. Do it today, send a note or give me a call at 605-425-2354 or call me at work 605-425-2787.

If you want to work some new states or new grids, what bet-

ter way to get some schedules than to drop me a note and let the world know about it. Guys and gals, 220 needs the activity so let's do our best to be active this summer and fall. What better way to stir up activity than having several pages of 220 news?? Please send me a note saying you are active, what you are running, what kind of schedules you would like, and other news about your activity.

WBØTEM, WBØPJB, and WØSD will be going to Montana/ North Dakota operating 220 EME this summer. Feel free to cal them for the latest details. They will be using their proven style of calling CQ and answering calls off frequency. They will be transmitting first using 2 1/2 minutes on 220.040. Liason will be on 20 meters (14.345 MHz) and if propogation permits on 3.818 MHz for coordination.

(2 plunk need it back) 73 - Dex

**WASVJB PRESENTING THE HONDRARY
SNOT AWARD TO K9XI**



RESULTS OF 1985 DAYTON HAMVENTION

NOISE FIGURE COMPETITIONS

Preamp gain and noise figure competition took place on Friday evening at the 1985 Dayton Hamvention. Test were conducted by Charles Osborne - WD4MBK and Norm Alred - WA8EUU (as seen in photos). There was a good crowd in attendance and many preamps were presented for testing. As seen by the list, there was a large variety and the list on 1296 MHz was the largest. Congratulations go out to K3IWK - 1st place on 144 MHz, WB8BKC - 1st place on 220 MHz, WA8VTK - 1st place on 432 MHz, WA3RMX - 1st place on 902 MHz, WB0DRL - 1st place on 1296 MHz, and WA5VJB - 1st place on 2304 MHz in the homebrew category. Although there were some technical difficulties, Jim Stitt - WA8ONQ kept the proceedings running smoothly and orderly. As you can see by the photo, the prize table was filled with many very nice prizes donated by several dealers and manufacturers.

* COMMERCIAL ENTRY

CALLSIGN	DEVICE	GAIN (db)	NOISE FIGURE (db)	
2 METERS				
K3IWK	MGF1202	21.50	.31	1st HOMEBREW
KC4KK/9	MGF1202	24.80	.32	
N180	MGF1202	21.30	.33	
K3MKZ	DX144	24.01	.36 *	
WA3RMZ	ALF1023	18.69	.39	
WB5LUA	MGF1200	21.66	.40	
K9PW	MRF966	18.70	.46	
N0UU	MGF1202	24.35	.49	
DK1VA	CFY19	20.60	.49 *	
PY2BJO	ARR	23.14	.52 *	
WB5LUA	NE411	40.19	.70	CONVERTER
WB0DRL	MGF1202	18.60	.76	
WB8KAY	MGF1202	12.90	.77	
K3IWK	3SK48	18.06	.81	
N0UU	MGF1202	19.31	1.25	
K3IWK	3SK48	19.06	1.76	

220 MHZ

WB8BKC	MGF1202	26.38	.27	1st HOMEBREW
WB0TEM		19.97	.54	
WA5VJB	NE411	25.80	.65	

432 MHZ

KQ3R	CFY19 (DX432S)	20.94	.28 *	
WA8VTK	MGF1402	21.71	.32	1st HOMEBREW
WA8HTL	MGF1202	14.99	.32	
K3MKZ	MGF1412(SSB EL)	22.31	.33 *	
DK1VA	MGF1412(SSB EL)	20.46 *	.35 *	
N180	MGF1202	18.41	.46	
WB0TEM	MGF1402	17.75	.51	
WB4IZR	NE72089	15.96	.56	
NE8I	MGF1402	17.08	.58	
K9PW	MRF966	16.65	.67	
WB0DRL	NE411	22.43	.87	
WA8HTL	MGF1202	16.08	.97	
N8BK	MGF1202	11.06	1.09	
WB4IZR	NE64535	15.18	1.23	

902 MHZ

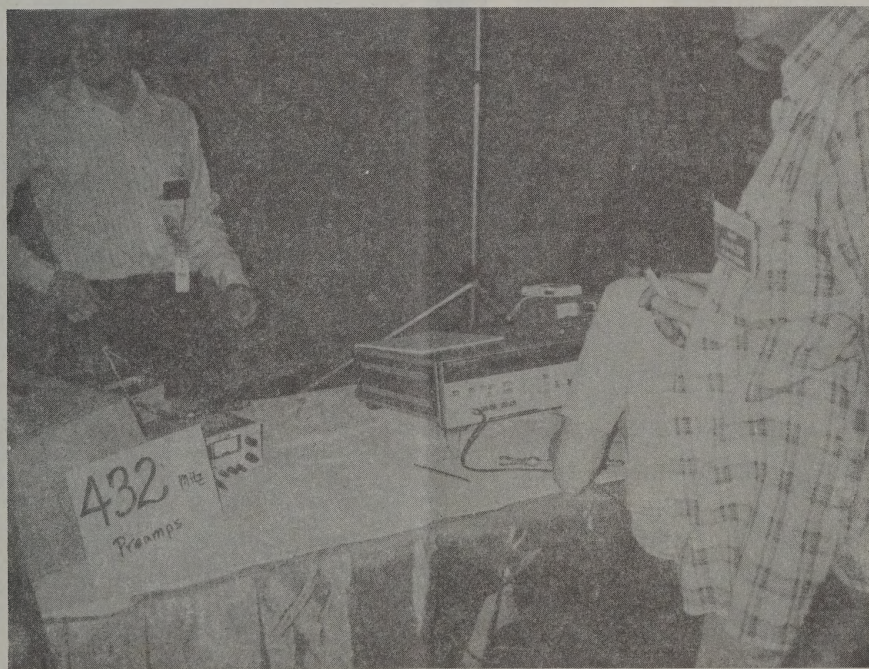
WA3RMX	NE21889	15.20	.54	1st HOMEBREW
WA5VJB	DXL1503	16.00	.70	

1296 MHZ

WB0DRL	MGF1402	13.81	.40	1st HOMEBREW
WB8BKC	MGF1402	18.34	.46	
WB41ZR	MGF1402	15.15	.48	
WB0TEM	MGF1402	16.89	.52	
WA2LSE	MGF1412	14.28	.52	
WA8EUU	MGF1402	16.95	.53	
WB5LUA	NE72089	14.81	.54	
WA2YTM	NE72089	16.90	.58	
WB5LUA	DXL1503	17.78	.59	
WB2QNA	MGF1402	14.70	.59	
WB0TEM	MGF1402	18.16	.60	
K0NG	MGF1402	14.67	.69	
WB0TEM	MGF1402	17.01	.73	
K3MKZ	MGF1202	14.54	.74	
WA3RMX	ALF1023	25.60	.76	
WA5VJB	DXL1503	16.15	.76	
WB41ZR	NE72089	11.02	.80	
NE8I	MGF1402	13.90	.84	
DK1VA	MGF1402	13.89	.89	
WA5VJB	DXL1503	11.72	1.11	
WB5LUA	DXL1503	11.43	1.31	
WA5VJB	S3030	13.80	1.54	
N7NW	MGF1402	13.83	1.57	

2304 MHZ

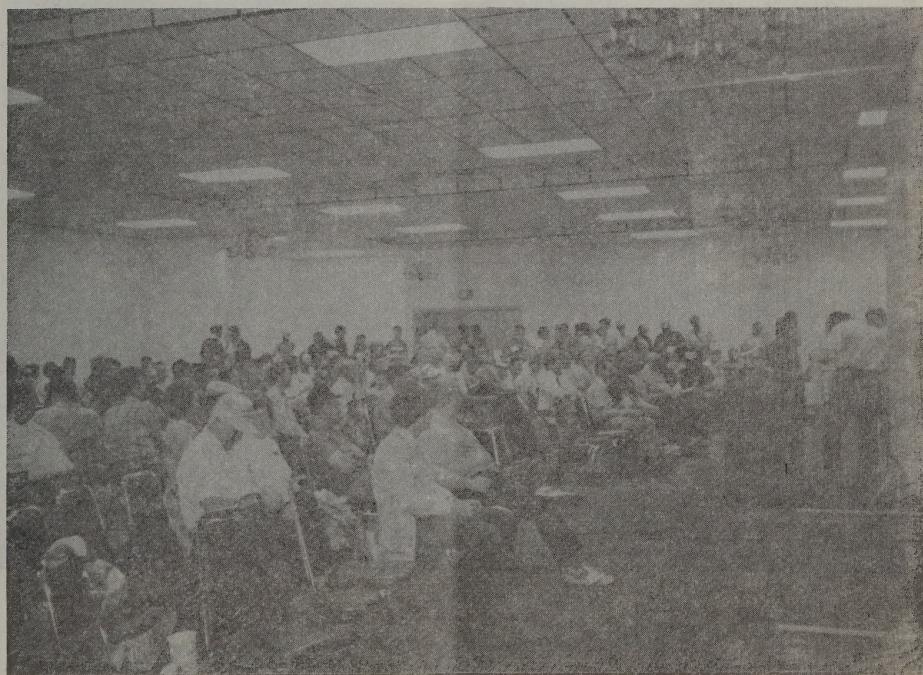
WA5VJB	MGF1203	11.22	1.48	1st HOMEBREW
WB5LUA	DXL1503	9.70	2.31	
WB5LUA	MGF1403	10.30	2.45	
WB5LUA	CONVERTER	32.00	5.96	
WB5LUA	CONVERTER	25.66	6.57	



WD4MBK AT 432 MEASUREMENTS



PART OF THE GOOD CROWD AT THE
VHF FORUM AT DAYTON





I THINK THAT THEY ARE
DISCUSSING THE BATTLE OF THE
BOOMERS!



WA80GS AND WA80NQ PREPARING FOR
TESTS

METEOR SKEDS WANTED

WA10UB-FN43AD; 6,2; Tel (603-464-3187) R. T. Mobile; RFD 2, Hillsboro Ctr.; Hillsboro, N.H. 03244

WA4LYS-EM90; 2; Tel (904-641-2354) Paul Cleve; 2025 Rahanson Dr.; Jacksonville, FL 32216

N8AXA-EM79; 2,220,432; Ax Axel; Box 294, Central Ave. RD 1; Miamisburg, OH 45342-0294

KF0M-EM17; 2,220; Tel (316-942-1988) John Lock; 1427 S. St. Clair; Wichita, KS 67213

AA5V-EM16; 2; Tel (918-245-0354) Steve Miller; 3422 S. Walnut Creek Rd.; Sand Springs, OK 74063

W2WW-FN30; 220; Tel (516-585-1906) Al La Placa; 153 Rustic Rd.; Centereach, N.Y. 11720

KD8SI-EM79; 2,432; Tel (513-294-8425) Leo Shaaf; 2648 N. Aragon Ave.; Kettering, OH 45420

W5HUQ-EM90; 2; Tel (904-264-5587) John Moore; 548 Clermont Ave. So.; Orange Park, FL 32073

K5YY-EM35; 2,432; San Hutson; P.O. Box 180; Paris, AR 72855

WB0TEM-EN12; 6,2,220,432; Tel (712-568-2901) Marc Thorsen; 331 Dakota St.; Akron, IA 51001

NI80-EN80; 2; Tel (419-468-6943) Bob Wagner; 773 Timberlane Dr.; Galion, OH 44833-1124

W7HAH-DN26; 2,432; Tel (406-777-2136) Francis Shepard; 471 Groff Lane; Stevensville, MT 59870

WD0FOY-EN12; 2; Tel (712-568-3344) Al Huygens; 800 Hardy St., Rt 1 Box 342; Akron, IA 51001

WB0DGF-EN10; 2; Tel (402-464-3235) Roger Cox; 3451 Dudley; Lincoln, NE 68503

WB0SIL-EM48; 2; Tel (314-921-3986) Mike Abernathy; 1375 Ensenada; Florissant, MO 63031

WB8ART-EM79; 2,220,432; Tel (513-294-1157) Randy Midkiff; 1628 Kanter Dr.; Kettering, OH 45429

N5BHO-EM31; 6,2,220,432; Tel (318-628-3776) Woody Bilyeu; P.O. Box 1192; Winnfield, LA 71483

WA3FYJ-FN00; 6,2,220,432; Bob Carnahan; 130 Flora Rd.; Pittsburgh, PA 15227

KA9LDS-EN51; 2; Tel (312-553-6170 or 553-7911) Jon Walters; 101 Park St.; Yorkville, IL 60560

KE2N-FN30; 2; Tel (516-221-3535) Gerry Skloot; 2923 Mandalay Beach Rd.; Wantagh, N.Y. 11793

WB5KYK-DM95; 6,2,432; Tel (806-669-3833) Larry Jones; 1836 N. Sumner; Pampa, TX 79065

KB9NM-EN55; 6,2,432; Tel (715-446-3185) Bart Jahneke; H9791 Hemlock Lane; Wausau, WI 54401 (Looking for new grids)

WD5AGO-EM26; 6,2; Tel (918-663-9768) Tommy Henderson; 3207 s. 92 E. Ave.; Tulsa, OK 74145

WB0SWD-EN40; 2; Tel (319-528-6159) Lee Edwards; RR 1 Box 127E; Wever, IA 52658

WS4F-EM84; 6,2,220,432; Tel (404-778-8318) Steve Adams; P.O. Box 150; Cornelia, GA 30531

OTHER SKEDS WANTED

1985 EME CALENDAR

Compliments of:

Joe Reisert - W1JR

There have been some requests to list other than Meteor Skeds wanted and as I stated nearly one year ago, this magazine is for the readers and reasonable requests will be heeded.

If you desire a sked for Tropo, EME, Aurora or anything else just drop me a note and it will run as long as you want the sked.

432 MHz LONG HAUL SKEDS - weekly, nightly or whatever to FN31 QJ (CT) Eqpt - 8 X 19 RIW's @ 80', 1500 W; .5db ant mounted preamp- K1FO - Steve Powlisken; 816 Summer Hill Rd.; Madison, CT 06443

EME SKEDS - Looking for skeds with FL, W1, W7, KL7, KH6 on 2 meter EME - NBAXA - Ax Axel; Box 294; Miamisburg, OH 45342

EME SKEDS - 2,220,432 - WB0TEM - Marc Thorsen; 331 Dakota St.; Akron, IA 51001 Tel (712-568-2901) EN12

TROPO SKEDS - 220,432,1296 - WS4F - Steve Adams; P.O. Box 150; Cornelia, GA 30531 Tel (404-778-8318) EM84

LONG HAUL SKEDS ON 220 AND 2304 - N3CX - David Hackford; Box 138 RD#2; Pennsburg, PA 18073 Tel (215-679-7293) Eqpt 2304 - HB xvtr to TRC-29/40W out to 1 5/8" HdLn to 4 X 45 LY's - 220 - 500 w/o to 2 X 2.2 WL yagis @ 70' with MGF 1402. Weeknights and weekends.

E's/EME SKEDS - 6,2,432; Needs western states; KB9NM - Bart Jahnke; H9791 Hemlock Lane; Wausua, WI 54401 (EN55) Tel (715-446-3185)

MAY

S	M	T	W	T	F	S
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JUNE

S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

--- N. DEC
X NEW MOON

O PERIGEE

METEOR SHOWER PREDICTIONS

This prediction is based on a program by AD1C and W4WD and has been accurate in the past.

METEOR SHOWER PREDICTIONS

SHOWER	PEAK GMT	DURATION
ARIETIDS	6/5/85 1746	5 Days +/-12 Hrs
JUNE LYRIDS	6/15/85 0342	2 Days +/-12 Hrs
DELTA AQUARIDS	7/28/85 0304	2 Days +/-12 Hrs
PERSEIDS	8/12/85 0127	4 Days +/-75 Min



16 X 17 EL NBS YAGIS AT G4PJO

DXPEDITIONS PLANNED

With the activity season coming soon, it seems like a good time to start a column including DXpeditions that will be of short duration and into somewhat rare locations. As with the MS sked column, these will run from the receipt of the report until the scheduled dates are completed.

Please try to get the reports in a couple of months in advance for better publicity.

EM46 - MO - WB0SIL will be operating from southern MO during the June contest on 2 and 432. Possibly using 3.818.

EM57 - IL - AA9D, N9KC, N9EDT, KA9CKI, and N9BD will operate the multiop June contest station from Bald Knob (near Alto Pass, IL) on 6,2,220 (maybe FM only), 432, and 1296. Meteor skeds will be taken between 0900 - 1100 Z on the 9th. Using 3.818. Tel (312-931-0856).

DM37 - UT - K6PVS will be on for the June contest with 6 -

1296 and EME capable on 2.

EM85 - NC - The Fourlanders VHF/UHF group will be operating from the top of Mt. Toxaway from K4MSK's QTH in the June contest. All bands 6 - 2304 and maybe 10 GHz. (Ant at 5000') Call will be N4HSM.

DN71 - WY - WA7KYM will be operating a multi-op station from SE WY on 2 - 1296 during the June contest. Tel (307-638-0407)

EN56,57 and perhaps 67 - MI - WB9MSV will operate 2m from upper MI the first two weeks of Aug.

EM36 - AR - KA9LDS plans to operate 2 m from N ar during the July CQ contest. Plans not firm yet.

EN50 - IL - The FUME group will operate the June VHF contest near Champaign-Urbana, IL on 50 - 1296. Skeds Tel (309-799-7447) Call will be W9UD.

GRID SQUARES

Submit your total of confirmed Grid Squares (by band), your call and YOUR Grid Square along with any comments that you may have.

[illegible]

WA10UB	FN43AD	254	VUCC	17
N0LL	EM09	243	VUCC	24
K0TLM	EM29	217	VUCC	27
KA9MGR	EN41	186	VUCC	46
WS4F	EM84	161		
W1JR	FN42HN	151	VUCC	29
WB4NMA		125	VUCC	26
K8YAH	EN80	107	VUCC	45
K5WE	EM26	101	VUCC	60
WA8LLY/6	CM88	101	VUCC	63
N8AXA	EM79	99		
WB0TEM	EN12	68		
WA3FYJ	FN00	67		

[illegible]

KD8SI	EM79WR	214	VUCC	3
WA6MGZ	CM87	158	VUCC	13
W4GJO	EM74	156	VUCC	10
WB0TEM	EN12	151		
N0LL	EM09	144	VUCC	5
WD4DGF	EM66	143	VUCC	25
KF0M	EM17	141	VUCC	9
K5YY	EM35	129	VUCC	24
WB4NMA		127	VUCC	6
K5WE	EM26	123	VUCC	16
KA9LDS	EN51	108	VUCC	30
W1JR	FN43HN	105	VUCC	31
G6JNS	I082DG	104		
WA10UB	FN43AD	102	VUCC	32
W0SD	EN13	102		
K3MD	FN00	99		
K1FO	FN31QJ	98		
N8AXA	EM79	97		
WA3FYJ	FN00	96		
K0TLM	EM29	94		
WS4F	EM84	88		
K6PVS	DM14	85		
NI80	EN80	78		
WB9UQE	EN61	65		
KE2N	FN30	62		
W2WW	FN30	40		

[illegible]

W0SD	EN13	71	VUCC	2
WB0TEM	EN12	70	VUCC	3
W1JR	FN42HN	65	VUCC	1
WD4DGF	EM66	50	VUCC	6

N8AXA	EM79	48
K1FO	FN31QJ	28
WB8ART	EM79	22
W2WW	FN30	19
WS4F	EM84	17
KF0M	EM17	11
WA3FYJ	FN00	7
<><><><><><><><><><><>		
432 MHZ (70 CM)		

[illegible][illegible]

WB5LUA	EM13	15	VUCC	?
W4HHK		7		
WB9SNR	EN52VC	4		
<><><><><><><><><><><><>				

UPDATE YOUR TOTALS AS OFTEN AS POSSIBLE!

432 EME FROM JERSEY

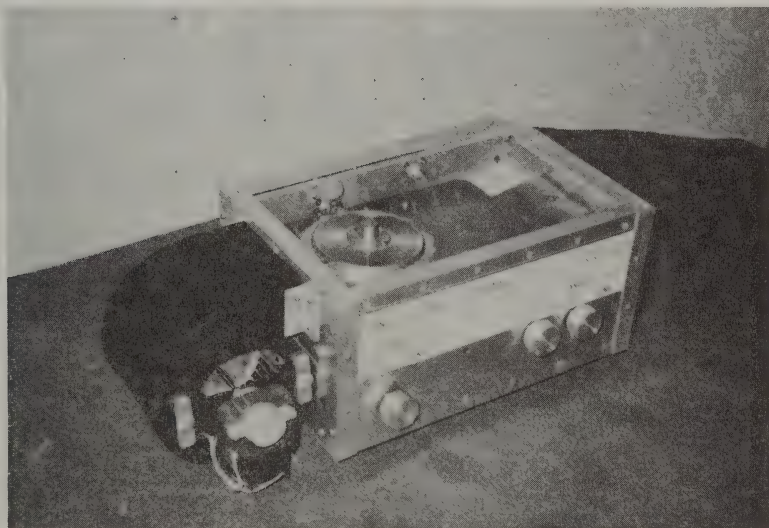
From: Geoff Brown GJ4ICD
Lemnos, Longueville Road
St. Saviour, Jersey C.I. Europe

Geoff - GJ4ICD - has been on 2 meter EME for a while from the Island of Jersey but due to the size of the antennas has decided to reduce the load and become QRV on 432 MHz EME.

The photo shows the YD 1336 amp to replace the modified K2 RIW which is capable of 1.8 KW output. The antenna system is now 8 X 21 el F9FT's soon to be 16 X 21 el F9FT's. TX is an FT 726 with an audio filter, an MGF 1402 preamp, and 30 ft of LDF 450 Heliax.

The amp is built around a triode made in "DL" 4" in diameter like the W6SA1 amp and built in a box same as the K2 RIW. Geoff hopes to have a big signal off the moon as Jersey is separate DXCC country.

The modified K2RIW has served well for seven years on 432 as Geoff has collected 116 European Squares on tropo, aurora, and etc. He will let us know when he is ready to go on EME.



YD 1336 TRIODE AMP / 1.8 KW OUT
BUILT BY GJ4ICD

432 AND ABOVE EME NEWS
APRIL 1985 VOL 13 #4

EDITOR/PUBLISHER: ALLEN KATZ, K2UYH; C/O
DEPT. OF ELECT ENGINEERING TECHNOLOGY,
TRENTON STATE COLLEGE, TRENTON, N.J.
08625 (TEL W 609-771-2666 OR H 443-
3184).

SKEDS COORD: PAUL CHOMINSKI, SP5CIC/SM0,
HARADS VAGEN 200, S-141-71 HUDDINGE,
SWEDEN (TEL H 08/883741 or W 8/7442800).
EME NET 14.345 SAT/SUN 1600 Z, NET
COORD: JOE REISERT, W1JR; 17 MANSFIELD
DR., CHELMSFORD, MA 01824 (TEL 617-256-
4803).

OSCAR 10 EME FREQ 145.950 (NETS SAT/SUN
BY ARRANGEMENT); EUR NET COORD: IAN
WHITE, G3SEK, 52 ABINGTON RD, DRAYTON,
ABINGDON, OXON, OX14 UK (TEL 235-31559)
EME STANDINGS: JOHN BEDNAR, WB3ESS, 548
CHERRYVILLE RD, NORTHAMPTON, PA 18067
(TEL 215-767-6861)

EME DIRECTORY: JOHN MOORE, W5HUQ, 548
CLERMONT AVE. SO ORANGE PARK, FL 32073
(TEL 904-264-5587)

CONDITIONS: The quality of signals during the contest was not what we had hoped for. We found the libration fading to be particularly poor on the 1st day and had great difficulty getting anyone to reply on the 2nd day. Many stations have reported poor conditions, but others noted that the faraday rotation was more cooperative than it had been for a long time. Activity level was excellent, especially around the peak of the N.A. - Eur window when the spectrum from .005 to .020 sounded more like 20 meters than 70 cm. Activity was also good on 1296 where the DK0UKW tests brought many stations out of the woodworks. They had an outstanding signal and worked 29 different stations in 18 sections! In N.A. they QSO'd VE4MA, K4QIF, K2UYH and W7GBI. They plan to be on again in Nov for the ARRL contest.

Unfortunately prospects for the April skeds weekend which is also the 2nd half of the IARU EME contest do not look too good. Many N.A. stations will be at the huge Dayton Hamvention which attracts almost 30,000 hams and has an excellent VHF/UHF program. Also the weekend of April 28/29 is a holiday in some parts of the world and this will keep regulars like ISMSH off. But with all these conflicts, conditions have got to be terrific - so if possible, try and make this weekend.

CONTEST HIGH SCORES: WA1RWU 40 X 26 for 104,000, K2UYH 39 X 20 for 78,000, DL9KR 37 X 19 for 70,300, N4GJV 30 X 22 for 66,000, F1FHI 32 X 19 for 60,800, K1FO 31 X 17 for 52,700, G3LTF 26 X 14 for 36,400, G3SEK 19 X 10 for 19,000

LAIK: Otto is not alone in reporting poor results during the contest. They made only 5 QSO's in 4 sections working on 30 Mar at 2330 DL9KR (449/449) and on the 31st at 0056 WA1RWU (0/0), 0104 DJ6MB (0/0), 0200 K2UYH (439/339), 2220 OK1KIR (0/0) and partial 2356 HB9SV (0/-). Interestingly they had better luck back in Feb when they worked on the

1st/2nd DL9KR (43/34) on SSB, K5JL (449/449), K4QIF (0/0) for initial #27, W7GBI (0/0) #28, JA6CZD (0/0), DJ6MB (0/0) and W1ZX/3 (0/0) #29. During the 1st March skeds weekend they QSO'd HB9SV (0/0) #30, SK4BX (0/0) #31, F1FHI (0/29), G3LOR (M/M) #32, OH2DG (0/0) and N4GJV (0/0). LA8KV and LA9UX will be operating LAIK again in April hoping to make up for their poor showing in March.

OK1KIR: Peter sends word on OK1KIR crew's activity for Feb and the 1st March skeds, but sadly their contest report has not yet arrived - they were well represented during the contest weekend. In Feb on 432 they QSO'd K5JL, N4GJV, F1FHI, JA0CJC and JA6CZD. They received QZ's from VE4MA and LAIK and heard DL9KR, G3SEK, K4QIF, HB9SV, DJ6MB, W1ZX/3, DF3RU, W7HAH, W7GBI, G3LTF, G3LOR and JA4BLC. On 1296 they worked SM6FHZ and heard F2TU, G3WDG, WB5LUA, GW3XYW, G4CCH and VE7BBG. On 3 March they concentrated on 2300 but were unsuccessful and only heard one weak signal.

ON4DY: Bob found conditions during the 1st March skeds weekend poorer than in Feb but was able to work 3 of his 4 skeds. LAIK was copied (0) but apparently was not hearing Bob, next G3SEK was easily worked (0/0), K1FO (M/M) weaker than normal with feed vertical and lastly W1ZX/3 (0/0) with pol horizontal. Heard were K2UYH (549), ISMSH (549), G3LOR (439) and VE4MA (329). Bob would like an other sked with LAIK.

DL9KR: Jan has had his hands full the last few weeks. His wife was in the hospital for a non-serious operation and he had responsibility for the entire household. Then he was off to Rio on business and made it home barely in time to make it on for the contest, very tired. He thus decided to concentrate on working new stations with good results. On 30 March he QSO'd EA2BK, RB5GU for initial #235, UB5GBN #236, G3LTF, N4EL/2 #237, K5WXN, F6CGJ, K1FO, SK4BX, WA1RWU,

G3HUL, OK1KIR, G4PJO, WBIDU, W0RAP, G3SEK, DJ9BV #238 (4 yagis and 150 watts!), LA1K, K4PKV, DL6WU and G3LQR. On 31 March Jan contacted F9FT, DF3RU, OZ7UHF, F1FHI, HB9SV, J0JCJ, N4GJV, UY5HF, UB5GBX #239, N9AB, KU4F, F2TU, UA6LGH #240 (no details yet), K1ROG, K4QIF, DJ6MB, W1JR, K2UYH and F1FEN. Jan needs NH, VT, AR, MS, ID, WY, KS and ND for WAS and is looking for help. He reports that Franz, DJ8QL has not been well but did come on to work OE9XXI and DK0UKW on the 30th.

DE3RU: Karl found condition very poor during the contest with signals only good at moonrise and moonset. On 30 March he worked at 0000 OZ7UHF (O/O), 0016 G3SEK (O/O), 0025 DJ6MB (449/449), 1258 VK5MC (O/O), 1403 JA0JCJ (559/M), 1620 JA6CZD (O/449), 1717 LX1DB (449/O), 1813 G3LTF (O/439), 1847 K2UYH (449/339), 2040 OK1KIR (O/M), 2100 F1FHI (O/O), 2140 K1FO (M/O), 2202 G3LQR (O/O), 2226 N4GJV (O/O), 2240 DL6WU (O/O) and 2306 F9FT (559/O). On 31 March he QSO'd at 0016 DL9KR (559/549), 1210 ZL3AAD (O/O), 2037 WA1RWU (569/O), 2140 KU4F (O/O), 2203 F1FEN (O/O), 2240 HB9SV (559/549), 2300 W1ZX/3 (O/M) and 2350 K4QIF (O/O). Heard were ISMSH, W5HUQ, W1JR, K4PKV, LA1K, W7GBI, UY5HF and N9AB. Before the contest he worked on the 28th at 2114 G3LQR (449/449). Karl did not make his March 1/2 skeds with VK3UM, JA0JCJ, JH1OFX and G4PJO because of preamp problems and heard nil in skeds with YV5ZZ and VE3CRU. Conditions seemed normal on the 2nd and very good on the 3rd. On 2 March Karl worked at 2145 HB9SV (449/O) and 2256 OE9XXI (449/449) and (54/44) on SSB. On 3 March he contacted at 0058 DJ6MB (449/349), 0113 K2UYH (449/449), 1610 F1FHI (549/449) and (44) on SSB, 1842 DL9KR (559/559) and (55/44) on SSB, 2124 OH2DG (O/M), 2225 HB9SV (559/559) and (55/43) on SSB, 2310 K4QIF (439/439) and 2345 W1ZX/3 (559/O). Copied were WA1RWU, N4GJV, K1FO, W1JR, DF9CY, ISMSH, VE4MA, OH2DG, K5JL, G3LQR, G3SEK, K2UYH on SSB (Q5) and G4NQC.

HB9BM: Hans (HB9MZQ) reports that their new dish which was built over the winter during less than ideal conditions is back in operation and working well. The new design is structurally stronger and uses an f/d of .5 for better performance. The mount also includes an hydraulic system for lowering the dish for maintenance. They had planned to be active during the whole contest weekend but high winds limited their operation on Saturday. On 30 March they QSO'd at 1317 OE9XXI (559/549), 1332 OE9FKI (449/559) and 1357 DK0UKW (549/529) for initial #19. On Sunday they contacted at 134 LX1DB (559/559) #20 and country 13, 1413 VK5MC (O/O), 1450 PA0SSB (559/559) #21 and country 14 and 2020 F2TU (439/449) #22 and country 15.

FC1FHI: Jean writes that there were several errors in our summary of his last report. The most important correction is that his new call is FC1FHI (which he will be using sometime soon)

and that his friend FC1AQC is now QRV on 1296 with a 7 M dish and 700 watts. He also reports that F6GNR sometimes operates his station. During the contest he operated multi-op with F5DE and worked on the 30th at 0003 DJ6MB (559/449), 0016 WA1RWU (O/O), 0030 OZ7UHF (O/O), 0135 K4QIF (449/449), 0207 N4GJV (449/449), 0224 K1FO (O/O), 0240 K5WXXN (O/O), 1207 F9FT (559/O), 1255 VK3UM (O/O), 1405 JA6CZD (449/449), 1415 JA0JCJ (O/O), 1535 G3LTF (O/O), 1635 ISMSH (O/O), 1735 LX1DB (449/449), 1955 F2TU (O/O), 2020 K2UYH (449/449), 2047 G3SEK (O/O), 2100 DF3RU (O/O), 2130 EA2BK (O/O), 2240 SK4BX (O/O), 2310 F6CGJ (O/O) for initial #82 and 2330 OK1KIR (449/449). On the 31 they QSO'd at 0045 W0RAP (O/O), 0120 HB9SV (449/429), 0145 K4PKV (O/O) #83, 0200 N4EL/2 (449/549), 0255 WBIDU (O/O), 1340 DL9KR (559/549), 2130 W5HUQ (O/O), 2146 F1FEN (O/O), 2240 KU4F (O/O) and 2330 W7GBI (449/439) for 32 QSO's in 19 sections. Heard were JA9BOH (429), LA1K (O), W1ZX/3 (549), K1ROG (429), WB5AFY (549). Back in Jan, Jean worked a new station DK0TU (O/419) and achieved a new DX record 17,110 KM by contacting VK3UM (449/539). In Feb conditions were good and he worked on the 2nd N4GJV (449/O), OK1KIR (559/529), VK5MC (449/439) for initial #69 and W1JR (449/449) #70. Nil was heard in skeds with VE2FUT, VE3CRU, VE4MA, K1ROG and WA7BJU. On 3 Feb Jean worked K5JL (459/439), DL6WU (O/O) #71, W0RAP (O/449) #72, LA1K (529/349), G4NQC (O/O) #73, OZ7UHF (O/O) #74, VE3CRU (O/339) #75, WA4MVI (O/O) #76, W1JR (449/439) and K1FO (449/O). Heard were JA0JCJ (called for 1 hour), DL9KR, DF3RU, K4QIF, HB9SV, G3SEK, SM5CPD, SK4BX, W1ZX/3, OH3DG, JR4AEP(?) and K1ROG. On 24 Feb he worked VK3UM (529/439) and (43/42) on SSB. During the 1st March skeds he QSO'd on the 1st K4QIF (429/449), on the 2nd K2UYH (459/459), F1FEN (529/449), N4EL (O/O) #77, K1FO (529/429), WA1RWU (429/449), W0RAP (429/449) and N4GJV (449/449), and on the 3rd VK3UM (439/439), DF3RU (429/449) and DL9KR (559/569). Then on 7 March Jean added UY5HF (O/O) #78 for the 1st F/UB5 QSO, G3LQR (449/449), RB5GU (O/O) #79 and UB5GBN (O/O) #80, and again on the 8th UB5GBN (339/349). These QSO's bring Jean (IN97GD) up to 83 initials in 34 countries and 23 states. He is interested in skeds with VE4MA, JA0JCJ and VE2FUT. He also asks about the locations of N4EL/2 - NJ, W0RAP - Iowa and W5UKQ - LA.

GW3XYW: Stu has not had too much luck with his skeds in 1985 and is building a new dish specifically for 23 cm use. While he works on the new dish he will be remain active on 1296 with the old dish. Back on 5 Jan, Stu QSO'd SM6FHZ (O/O), LX1DB (44/44) on SSB, OE9XXI (44/44) on SSB, F2TU (O/O), OE9FKI (M/M) and K4QIF (M/O). In Feb he worked on the 2nd SM6FHZ (339/339) and G3WDG. And in March he contacted on the 2nd G4CCH (M/M) and on the 30th DK0UKW (559/519) with a very strong signal. Stu is looking for ideas on how to keep snow from accumulating on a dish (water jets,

heating coils, etc.). He also reports that G6HRH should be on 70 cm EME with 4 yagis shortly.

G3LOR: Simon (J00QF) has new TX cable to his array and now has a problem operating when the moon is further west than 270 deg because of a limited cable length. He also has a problem at high elevations (above 60 deg) with his phasing lines getting close to the tower. Simon was active on Jan 23/24 and worked K5JL and K2UYH. He was also active on Feb 2/3 but made no QSO's although VE4MA was copied (O) during their sked. During the 1st March skeds, Simon worked K5JL (559/439), DF9CY (M/O), K4QIF (439/339), OE9XXI (O/O), G3HUL (M/O) and VK3UM (449/439). Nil was heard from YV5ZZ during their sked but K2UYH, K1FO, WA1RWU, F1FEN, F1FHI, SK4BX, DL9KR, HB9SV, DK1UV, N4GJV, W1JR, DJ6MB, VE4MA, G4NQC, LA1K, DJ8QL and W1ZX were copied. On March 7th he worked RB5GU (O/O) for his 1st UBS and on the 8th UY5HF, UB5GBN and RB5GD all (O/O) for a total of 49 stations (counting the UBS's as one) in 17 countries and 14 states.

G3LIF: Peter found conditions during the March contest weekend frustrating but activity quite good. He was on 1296 1st on 30 March trying to work ZL3AAD but only received a few seconds of signal. At 1120 he worked DK0UKW (529/519) when the dish was still obscured and a 2nd time about 40 minutes later with (529/519) reports. Peter also worked OE9XXI about this time. He then went down to 432 and called VK3UM but could not get through the pileup and QSO'd G3HUL, JA0JJCJ, JA6CZD, JA9BOH, F1FHI, EA2BK, 15MSH, HB9SV (vertical), LX1DB, DJ6MB, DF3RU, WA1RWU, N4GJV, K2UYH, DL9KR, OK1KIR, F2TU, K4PKV, G3SEK, K4QIF, KU4F, W0RAP, F9FT and OZ9CR. At moonrise the next day he tried again with ZL3AAD but on 432 with no joy and worked F1FHI for a 2nd time, OH2DG and K1FO. Peter had to quite early and ended up with at total of 26 stations in 14 sections. Back in Oct he had worked 27 X 18 over a similar period. During the 1st March skeds weekend, Peter heard nil in skeds with VK3UM, JA7BMB, JA3IAF and JA6ZHR but did contact on the 2nd DF9CY (M/M) for initial #149 and DK1UV (329/339) #150 as well as OH2DG (O/O), JA6CZD (549/559) and 15MSH (559/559). The next day he worked VE4MA (449/449), K1RQG (M/O) #151 and state 36, N4GJV (459/449), K5JL (459/449) and K2UYH (559/459) and (43) on SSB. Nil was heard from WA7BJU. Others copied during the weekend were OE9XXI, WA1RWU, F1FEN, K1FO, G4NQC, HB9SV, K4QIF, W5HUQ/4 and N9AB. On 1296, Peter tried twice with ZL3AAD and came close to a QSO (M). He did work VK2AMW (O/M) for a 10,548 mile QSO and OE9XXI (559/549). Recently Peter checked out his system's performance using Cyrus and measured 2.25 dB for a overall receiver temperature of 45 deg or .63 dB! He wonders "How much lower you can go?"

G3SEK: Ian found conditions to be "not that good" but the one weekend "sprint"

type contest to be "just about right". On 30 March, he worked at 0000 N4GJV (O/O), 0015 DF3RU (O/O), 0100 K1FO (O/O), 2015 KU4F (O/O), 2035 F1FHI (O/O), 2100 DJ6MB (O/O), 2130 WA1RWU (O/O), 2215 K2UYH (339/339), 2310 DL9KR (559/559), 2335 G3LTF (559/449) and 2350 F9FT (O/O). On the 31st he added at 0042 OK1KIR (O/O), 1240 JA0JJCJ (O/M), 1335 OH2DG (M/M), 1455 JA6CZD (449/449), 2145 DL6WU (M/M), 2225 F1FEN (O/O), 2310 K4QIF (O/O) and 2330 HB9SV (O/O) for a total of 19 QSO's in 10 sections. Back on 24 Feb he QSO'd HB9SV (O/O) and on 2 March VK3UM (449/439) for initial #70, partial with JH10FX (O/O) due to frequency error at start of sked which did not leave enough time to complete a QSO, OE9XXI (O/O), HB9SV (O/O), K2UYH (449) disappeared, ON4DY (O/O) #71 and ORZ (?) at 2350. On the 3rd he added K5JL (449/449). Nil was received in skeds with JA3IAF, JA0JJCJ, UY5HF (extra), VE3CRU (not expected), YV5ZZ, W7HAH and WA7BJU.

G4FJO: Vic seems to be having some problems with his new 16 x 17 NBS yagi array. He heard nothing during his sked with N4GJV on 1 Feb but found that his preamp had gone bad. After repair his sun noise was back to 14 dB and on 2 March he copied VK3UM (M), G3SEK (O), JH10FX (M), DL9KR (O), 15MSH (M), VE4MA (M), WA1RWU (O) and K5JL (569!). He tried to get the attention of a number of these stations with no success and heard nil during his skeds with VK5MC, JA4BLC, SM3AKW, DF3RU and W1ZX/3. Look for Vic who will be looking for contacts during the April contest weekend.

G4CCH: Howard's 1296 contest weekend operation was hampered on both days by high winds and (59) radar blips which may be from a new aircraft facility about 10 miles away. Notwithstanding these difficulties, he worked on 30 March at 1530 OE9XXI (549/439) and 1546 DK0UKW (549/519) for initial #12 and country 11. Also heard were LX1DB (O), K4QIF (M) and K2UYH (O). On the 31st, Howard again worked OE9XXI and DK0UKW and called with no reply HB9BM (O) and F2TU (O). He was also active on 1296 on March 2nd and worked GW3XYW in an extra sked at 1900 (M/M) #11 and country 10. On random he QSO'd SM6FHZ (M/M) and VE7BBG (O/M). Howard is looking for a prop pitch motor and wonders if any one can help?

15MSH: Piero (15TDJ) reports that they were not active during Feb due to a problem with their dish position indicator, but were back in business for the March skeds. They found conditions poor on 2 March with no pronounced polarization peak. On the 2nd they QSO'd at 1419 OH2DG (449/449), 1520 called JA4BLC with no reply, 1602 JA6CZD (459/559), 1649 G3LTF (49/559), 1700 partial SM6EUP (M/T), 2115 G4NQC (439/329) for initial #210, 2153 RB5GU (O/O) #211 and country 38 and 2230 K1RQG (O/O) #212 and USA state #41. Piero feels that there should be only one EME contest a year. He thinks that too many contests will make

these events "routine" and discourage participation. Or said another way - "Don't substitute quantity for quality!"

SP5CIC/SM0: During the contest Paul was active on 1296 and worked DK0UKW and OE9XXI on both CW and SSB and PA0SSB. Heard were HB9BM, OE9FKI, G3WDO (on SSB), K4QIF, LX1DB and F2TU. Paul reports that his XYL, SP5CNX/SM0, also worked DK0UKW and OE9XXI. On 1 March he was on for skeds with YV5ZZ but never heard him or W7HAH but did copy K2UYH, OE9XXI, N4GJV, HB9SV, K5JL (559!), DJ6MB, G3LTF, G3SEK, G3LQR, DN4DY, K1R0G and W1ZX/3. He also reports that 2 March SM6EUP worked DL9KR, heard ISMSH but copied nil from K2UYH and N4GJV.

SM3AKW: Karl has been off during most of the winter due to the failure of his tilte motor. Now that the weather is better, he expects to be back on soon and will be active on 1296 as well as 432 with a 5 M dish and 100 watts.

WA1RWU: Frank is one those who did very well in the contest. Although he reports conditions as at best fair, he worked 40 stations in 26 sections which compares very favorably to the 47 QSO's in 27 sections he made during the 1st weekend of the ARRL EME contest last fall. He found faraday to Eur much better than it has been for some time but the faraday angle to Asia no good. On the 30th he QSO'd at 0022 K5WXXN, 0015 F1FHI, 0033 DJ6MB, 0055 K4QIF, 0125 N4GJV, 0245 N9AB, 0303 W5HUQ, 0315 W0RAF, 0325 K1FO (539/339), 0340 W8IDU, 0408 partial W7GBI (559), 0430 K2UYH (559/559), 0445 VE3CRU (449/449), 0525 W7HAH, 0605 VE4MA, 1720 0Z7UHF (0/0), 1832 OK1KIR, 1843 ISMSH (559/449), G3LTF (449/449), 1915 OH2DG, 1940 F2TU, 2005 EA2BK (0/0), 2058 S14RX (M/O), 2115 G3LQR, 2130 G3SEK, 2228 DL9KR (559/559) and 2237 F9FT (449/0). Frank added on the 31st at 0050 LA1K, 0110 K4PKV, 0235 W1ZX/3, 0250 KU4F, 0315 N4EL/2, 0330 K1R0G (0/0) for initial #97, 0503 W8SAFY (0/339), 0529 JA6CZD (559/559), 0650 ZL3AAD, 0724 partial VK3UM (M), 1913 UY5HF, 1933 VE1OD, 1952 HB9SV, 2035 DF3RU, 2117 F1FEN and 2220 dupe F2TU. All reports were (0/0) unless noted above. Also heard were RB5GU, YV5ZZ, LX1DB and W1JR. Frank has recently moved. His new address is 20 Lester St, Springfield, MA 01108 and his new home tel is 413 739 9752. His station remains at the same location and has the same phone number (413 568 4686) but is now unfortunately a 30 min drive. Sometime during the next few months, he will be taking down his array to rebuild and put up something bigger and better. Frank apologizes to anyone still awaiting QSL's and promises to get the cards out very shortly.

KU4F: During the contest Thorton worked on the 30th K2UYH, G3SEK, EA2BK, RB5GU and G3LTF, and on the 31st DJ6MB, 0Z7UHF, WA1RWU, JA0JCJ, JA9BOH, JA6CZD, DL9KR, G3LQR and F1FHI. He reports that QSL's for 0Z7UHF can be sent to the UHF Radio Club Copenhagen, Bartholinstrade 20, DK-2630 Taastrup, Denmark. He asks

if anyone has an address for RB5GU? Thorton's standing should now read grid EL89, initials 73, countries 16 and states 24.

K1EQ: Steve notes that the contest demonstrated that "EME is a night time sport". Signals were really good from 11 PM to 1:30 AM local time on Saturday. [Signals always seem to be best around full moon!] On March 30th he worked at 0010 DJ6MB (0/0), 0020 N4GJV (0/0), 0045 OK1KIR (M/O), 0100 G3SEK (0/0), 0220 F1FHI (0/0), 0245 W5HUQ/4 (0/0), 0327 WA1RWU (339/439), 0335 K2UYH (549/449), 0400 W7GBI (449/449), 0422 K5WXXN (0/0), 0605 N9AB (0/0), 1800 0Z7UHF (0/0) for initial #69 and country 23, 0145 DF3RU (0/M) and 2215 DL9KR (449/559). Then on the 31st he added at 0050 F9FT (0/0), 0108 W1JR (0/0), 0115 K4QIF (439/549), 0330 W0RAF (M/O), 0355 K4PKV (0/M), 0421 W8IDU (0/0), 0442 W8SAFY (0/339), 0455 VE3CRU (439/339), 0512 K1R0G (0/0), 0542 JA6CZD (549/559) - most bandwidth signal at Steve's OTH, 1840 G3LTF (439/439), 1930 UY5HF (0/0) #70 and country 24, 1945 RB5GU (0/0), 2035 HB9SV (0/0), 2105 F1FEN (0/0), 2220 G3LQR (0/0) and 2355 F2TU (0/0) for a total of 31 by 17. Heard were W1ZX/3, KU4F, VE4MA and ZL3AAD. Steve notes that he did not count his QSO's with UY5HF and RB5GU as separate QSO's as both these stations are operating from the same location and using the same equipment and thus according to contest rules count as only one contact. He also notes that there were a number stations on with signals too wide for the 125 Hz filter in his receiver. Before the contest on 7 March, Steve worked VE2FIT for initial #68, and after the contest ended at 0155, he contacted W7GBI (M/O) and heard K4QIF echo testing. Steve is still awaiting QSL's from K5JL, W5ITI, K5AZU, WA7BJU and W8IDU. He is very pleased with the one band contest concept and hopes that it will be continued with additional contests on 144, 220, etc - but not on the same weekends.

W1JR: Joe made an effort to get his 12 ft dish back on the moon for the DK0UKW tests but did not quite make it. He hopes to have the system going sometime in June. He did not find the conditions on 432 that good during the contest but made initial QSO's with 0Z7UHF for #172, UY5HF #173 and DXCC 32 and DJ6MB #174. He still needs C11WW, EA2BK and LA1K and wants skeds with these stations.

W0RAF: Bob is basically ready to go on 1296 with his 16 ft dish and linear pol. He did some listening on Friday toward the end of the Eur window with nil heard. As the weather was rather bad (ice and snow) he went back to 432 and stayed there for the rest of the weekend. On 30 March, he worked N4GJV, WA1RWU, K2UYH and DL9KR. On the 31st he worked F9FT, DJ6MB, G3LTF, F1FHI, K4QIF, K1FO and W5HUQ/4. Heard were W1ZX/3, W8IDU, W7GBI, HB9SV, VE3CRU and JA6CZD. Bob is particularly interested in skeds with K1R0G.

W1ZX/3: Willie found conditions rather poor at the start of the contest and worked on 30 March at 0230 K2UYH (559/449), 2205 G3HUL (0/0) for initial #72 and 2255 DJ6MB (0/0). The next day he heard nil from RB2GU in an extra sked and worked at 0209 W5HUQ/4 (0/449), 0217 K4QIF (0/0), 0236 WA1RWU (0/0), 0322 N4GJV (449/459), 0350 W8SAFY (0/0) and 2319 DF3RU (M/0). W1JR was also heard. After the contest Willie worked K4QIF (0/0). He asks whether VK3UM still needs a 2CX250B? He is also awaiting QSL's from YV5Z2 and ZL2AQE.

N4GJV: Ron was not happy with his contest results. Conditions seemed only fair and he was troubled by QRM from K4PKV's direct signal, rain which dented his antenna and an exciter failure which forced him to QRT shortly after midnight. Ron QSO'd G3SEK, K1FO, DJ6MB, 027UHF, K4QIF, WA1RWU, K2UYH, F1FHI, W5HUQ/4, W0RAP, K5XWN, VE3CRU, VE4MA, N9AB, 15MSH, OK1KIR, G3LTF, DF3RU, HB9SV, W8SAFY, N4EL/2, W1ZX/3, WB1DU, K1RQG, JA6CZD, ZL3AAD, VK3UM, DL9KR, RB5GU for initial #130, and G3LOR for a 30 by 22 total. IY5HF, W1JR, W7GB1, W7HAH, LX1DB, F9FT, F1FEN and KU4F were all called repeatedly without success. ZL2AQE was also copied.

W7GB1: Charlie had better luck on 1296 than he has had in the past few months. On 30 March he worked DL0UKW (539/519) but informs us that their signal was much stronger later (559) and that he was very impressed by the quality of their SSB and that of OE9XXI who was almost as strong. Also worked were F2TU (539/0) on the 30th and LX1DB (549/449) and OE9XXI (54/43) on SSB on the 31st. Charlie did not spend too much time on 432 and only worked on the 30th K1FO (439/549) and WA1RWU (559/449), and on the 31st F1FHI (439/449), K4QIF (439/549) and K1FO a 2nd time (0/339).

W7HHH: March was a slow month for Shep. Shep did not make the 1st skeds weekend but did work W0RAP (M/M) on the 8th and new stands at (DN26) 20 initials in 6 countries and 11 states. Shep needs QSL's from 15MSH, WA1RWU and ZL2AQE.

HL9XX: Tom Nickle (121 Evacuation Hospital, APO San Francisco, CA 96301-0017) has written concerning the possibility of getting on 432 EME from Korea. They are planning to try 4 24 el boomers and are looking for suggestions and advice.

Z96JI: Peter and Giel were not able to make it on for the March activity weekends but hopes to active on 1296 in April or May. They are receiving 17-18 dB of sun noise so they do not expect any problem once they get on the moon. In the mean time Peter has been building a dual band feed (432 & 1296) for the dish and they have been experimenting with Oscar 10 mode L and will be active via this medium. Peter has also purchased a home near the dish sight and should be active on HF and mode B from this location very soon. His new address is PO BOX 377, IRENE 1675, T.V.L., S.

Africa. Of interested to N.A. hams is that Giel, Z96NG will be visiting the USA in April and plans to attend the Dayton Hamvention.

ZL2AQE: John was ill with the flu during the contest weekend and did not make many contacts although there were plenty of stations. On 30 March he QSO'd only K2UYH (449/0) and again on the 31st (449/0) and (44) on SSB along with DH2DG (M/M) initial and OZ7UHF (0/0) initial. Heard were JA6ZHR, JA9BOH, JA6CZD, K1FO, KU4F, WA1RWU, K4QIF, ZL3AAD, VK3UM and N4GJV. John worked W1ZX/3 during the 1st March skeds but heard nil from YV5Z2. He is not happy with the performance of his receiver and reports 5.5 dB between cold sky and a termination and wonders what others are getting. [I do not consider the measurement of cold sky to a termination a meaningful measurement, since the change in impedance between the load and antenna can cause a change in pre-amplifier gain which is on the same order as the antenna temperature change. I recommend that this measurement be made cold sky to ground. Because of ground reflection effects, the antenna usually must be pointed several degrees below the horizon to get an accurate measure of ground temperature. On 432, I measure about 4 dB of change.] John also has a 12 ft dish for 1296 and plans to be on EME with 100 watts sometime this summer. He wants skeds with JA9BOH, JA0JCJ and UY5HF/RB5GU. He can work down to the horizon in the easterly direction and would like to try skeds with northern Eur stations on rising moon.

JA9BOH: Kimio had his problems during the contest. He was unable to be on for the his 1st N.A. window because of a work conflict, had heavy snow during his 2nd Eur window and found Faraday to be generally bad. Despite these difficulties he worked on the 30th at 1330 JA0JCJ (559/559), 1350 027UHF (0/0) for initial #123, 1435 JA6CZD (459/449) and 1455 G3LTF (M/0), and on the 31st at 0455 KU4F (559/449) #124, 0511 K2UYH (549/449), 0545 ZL3AAD (0/0), 0605 VK3UM (439/449) and 0916 VK5MC (M/M).

VK2AMW: Lyle (VK2ALU) writes that there still seems to be some confusion as to when they can operate as they were scheduled for activity on March 2nd at a time it would normally be impossible for them to be on. They can NOT get access to their EME site between 1200 and 2200. As it turned out, because of a serious brush fire in the vicinity of the dish, they were required to stay around in case the wind shifted and threatened their equipment. Fortunately the fire never came near the dish, but while they were there they decided to take advantage of the situation and went on the moon. They heard ZL3AAD and SM6FHZ in QSO and called ZL3AAD afterward with no response. They then worked LX1DB (M/0), SM6FHZ (M/0), G3LTF (M/0) and OE9XXI (0/0). On 30 March contacts were made at 1056 with DK0UKW (549/529) and 1137 OE9XXI (549/549) and (32) on SSB. A partial was also achieved with ZL3AAD

(T/O?). VK2AMW now have 17 initials in 12 countries and 3 states on 1296. Security is still a problem at the location. Recently the optical observatory next to them was broken into and a 10 inch telescope taken, luckily none of their equipment was taken. Lyle will be away on holiday in Eur and Canada between May 17 and July 5 and thus will be unavailable for skeds during this period.

VK5MC: Chris found the weather to be excellent during the EME contest, but activity from N.A. very low. On 30 March he worked on 432 at 0610 K2UYH (339/449), 1125 ISMSH (339/339) and 1135 F9FT (O/O). He then switched to 1296 and QSD'd at 1210 DK0UKW (529/549) and 1225 OE9XXI (O/O), but was back on 432 at 1305 to work DF3RU (O/O) and 1335 G3LOR (N/M). On the 31st, Chris worked on 432 at 0920 JA9BOH (M/M), 0945 VK3UM (O/O) and 1150 0Z7UHF (O/O) and on 1296 at 1320 LX1DR (M/O), 1355 PA0SSB (O/O) and 1415 HB9BM (O/O). He notes that although signals were strong on 1296, dispersion was quite evident and made the use of a narrow filter useless.

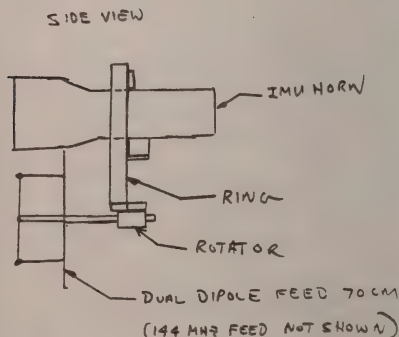
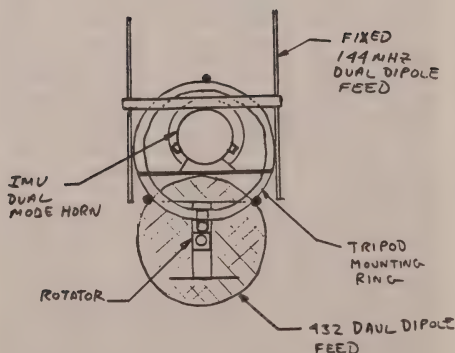
K2UYH: I was not particularly pleased with my contest results. Before the contest, I had off-set mounted the 432 feed to allow simultaneous use of both the 432 and 1296 feeds [see Technical section]. I thought that this change may have effected the 432 signal level, however reports from the 20 m net indicated that signal strength was normal. I suspect my results were due to a contest strategy which relied on repeatedly calling CQ on a clear frequency rather than hunting for new stations. The fact is that there are now an awfull lot of strong signal on 432. On 30 March we worked at 0040 DJ6MB (449/459), 0056 SM5CPD (449/449), 0120 K4QIF (449/549), 0130 K1FO (459) - lost, 0150 N4GJV (449/449), 0200 W2LFL (449/559) - signal seemed to be coming from the moon (?), 0230 W1ZX/3 (449/339), 0254 W5HUQ/4 (449/449), 0307 K5WXXN (449/549), 0324 W8IDU (339/439), 0335 K1FO (449/549), 0345 W0RAP (449/559), 0355 KU4F (449/449), 0405 ZL2AQE (449/O), 0430 WA1RWU (559/559), 0435 VE3CRU (449/449), 0457 W7HAH (339/439), 0531 VK3UM (559/559), 0602 JA6JCJ (449/549), 0616 VK5MC (339/339), 0633 JR4AEP (449/449), 0644 JA6CZD (449/459) and SSB, 1848 DF3RU (339/449). 1917 WBSAFY (339/339), 1927 G3LTF (339/449), 1955 EA2BK (339/O), 2005 0Z7UHF (339/449) for initial #277, 2016 F1FHI (449/449), 2040 F2TU (339/339), 2045 G3LOR (339/M), 2155 SK4BX (339/339) and 2210 G3SEK (339/339). I then switched over to 1296 for a DK0UKW sked. (Although both feed were in place, I had not connected in the relays and had to go out to the feeds to make this switch. I hope to have all the relays in place for the April skeds weekend.) I worked at 2300 DK0UKW (559/559) and (55/55) on SSB, 2317 OE9XXI (549/559) and (55/54) on SSB - Peter's was not much weaker than DK0UKW and 2340 0RZ's - possibly SP5CIC/SM0???. I went back to 432 and

worked at 0105 F6CGJ (339/449), 0159 LA1K (339/449), 0215 0RZ's - too slow to ID, 0235 K4PKV (449/449), 0416 ZL2AQE (449/O) repeat - tried SSB, 0508 JA9BOH (449/549), 0520 ZL3AAD (449/559) and (54) on SSB, 2030 OK1KIR (449/559), 2135 N9AB (459/559), 2300 F1FEN (559/549) and 2325 DL9KR (549/559) for a total of 39 by 20 not counting the W2LFL QSO. Libration fading made copy difficult on the 1st day. On the 2nd copy was better, but it seemed as if no one was replying to our CQ's.

NETNEWS: W0VN (X-W000I) is coming back on 432 EME after several years of inactivity. ** K9ZZH has been away the past month, but should be active again off the moon in April. ** K5AZU is active again on 432 and is looking for 3/8 X 5/8 brass stock for use in his 1296 system. ** VE3CRU is back in business with 4 yagis and was active in the contest. He has 7289 water jackets for sale for \$7.50. ** K1RQG was active during the contest and made several contacts. ** K5JL had relay problems and blew out a pin in the heliax which feeds his dish. He was consequently inactive during the contest, but now has the problem repaired. Jay also had problems on 1296. When he went to but his transmitter on, the plate transformer shorted. He was on 432 on March 23/24 working N4EL/2, JA6XED and called VK3UM many times. ** KC3J is making progress on his 1296 EME system. ** K4PKV was active during the contest. ** NE4EL/2 had good results during the contest weekend. ** G3IOR reports the G3HUL worked VE4MA and W1ZX/3 and had partials with W1JR and W5HUQ/4. ** VE2DFO listened during the contest with a 10 wavelength yagi. ** W0HHE was not active during the contest weekend because of bad weather. ** W7HAH reported libration fading problems and worked WA1RWU and K2UYH. ** W5FF will not be active on 432 EME before May. They are also getting 1296 gear and will eventually be on 1296 EME. ** W5ETV has solved his interference problem which turned out to be a regenerative garage door opener receiver in his neighborhood [K4QIF has a similar problem several years ago]. He should be operational shortly with his 32 ft dish. His old 20 ft dish is going to WBSAFY. ** W8SLUA and VE4MA report working DK0UKW. ** N6CA is experimenting with 4 loop loop yagis and would like to try some EME tests. ** W5HUQ/4 reports that his new 9913 phasing lines seem to be paying off. John is hearing much better than before and worked 18 stations in the contest. ** UY5HF confirms contacts with W1JR, K1FO, K1RQG, OK1KIR and DL9KR during the contest. ** YV5ZZ says he will be active again in April. ** K3NSS has ceased operation. Their dish is being torn down and the group has lost permission to operate - more details in the future. ** R2P from UP2 is reported to be preparing to be on 432 EME the weekend of June 29/30 for a demonstration of amateur radio communications. ** WA1JDF and W1RIL are making progress on their 1296 EME systems using loop yagis. ** NBAXA reports that he is ready for skeds on 432 EME.

FINAL: The multiple calls coming out of the UY5HF operation has again raised the issue of what is appropriate for inclusion in the stations worked list and for contest scoring. In the case of the EME contest, the rules are clear, only one call per station (set of equipment). In the case of the stations worked list, there was quite a discuss of possible options several years ago but no firm conclusion. I believe most stations interpret the rules to allow more than one call to be listed from a given location provided the owner of the additional call is a part owner of the equipment and legally licensed to permanently operate from the station location (not a visitor). In the case of call changes (same operator and same location), the new call does not count as a new station. The one exception to this rule is special events calls which are licensed for a limited time period. Most people have considered these special calls as counting as new stations. When a station moves (changes location), it does not count as a new station unless the move is across a geographical boundry (state, country, call area, etc.) The actual counting of stations worked is up to each individual's conscience as there is no formal award for number of stations worked. However, if we want to keep the stations worked list meaningful for the purpose of comparison, I suggest that we all try to follow the above guidelines. That about covers the news for this month. Have fun at Dayton or we will be seeing you off the moon during the 2nd IARU Contest weekend. 73, Al -K2UYH

TECHNICAL: For sometime I have been trying to find a good solution to the dual band feed puzzle. The combination IMU/BPP feed appears a good compromise, but I have always liked the idea of being able to fully rotate my 432 polarization and the BPP arrangement only allows vertical or horizontal polarization - nothing in between. I had originally considered off setting my 1296 feed, but decided the loss in performance was too great. Recently I reviewed the numbers involving feed off-set (see the following curve from Silver) and realized that if I off-set the 432 feed the gain degradation would be negligible. According to the data, I could off-set my 432 feed almost 6 feet before more than 1 dB is lost. I moved the 432 feed rotator to the bottom of the feed ring (see diagram) and placed the 1296 IMU feed almost at the center of the dish but offset slightly up. With this arrangement the 432 beam is squinted 6 deg up and the 1296 beam about 1.5 deg down. This means that I must subtract 6 deg from the moon's elevation when operating on 432 and add 1.5 deg when on 1296. There is no change in the azimuth setting. The system appears to work exactly as predicted. One disadvantage is that I can no longer measure cold sky to ground noise on 432 as I can not tilt my dish far enough into the ground to get an accurate reading. In fact I now just make the horizon, but this seems a small price to pay for the convenience of 2 feeds - actually I have 3 feeds as I also have a fixed dual dipole feed for 2 meters mounted across the feed ring.



Doppler shift on EME

The best test of the whole EME equipment is listening to own echoes. With RX BW 100 to 200Hz it is worth having a prediction of the Doppler frequency shift, especially on the SHF bands. This fact has led us to summarization of simplified formulas and from these we have worked out graphs for this purpose. From our experience from both 432 and 1296 MHz we assume that the Doppler shift is not only our problem and we think that the graphs may be useful to other operators too. Besides the prediction of one's own echoes the graphs enable quick determination of the frequency shift of the other station and they are worked out for 432 and 1296 MHz bands. If using the graphs for other freq. f_x , the graph reading should be multiplied by ratio f_x/f_{graph} .

A. Frequency shift of own echoes - Δf_0

$$\Delta f_0 = \Delta f_E + \Delta f_M$$

where Δf_E - freq. shift caused by influence of the Earth

Δf_M - freq. shift caused by influence of the Moon

- 1/ Influence accounted for the rotation of the Earth, declination of the Moon and mutual rotation of the Earth with the Moon /graph - Fig.1/

$$\Delta f_E = \frac{4\pi \times 6370 \times \cos \varphi_x \sin^2 \delta \cos \delta}{(1 + 0.034 \cos t) \times 24 \times 3.6 \times \lambda}$$

where λ - wavelength in metres
 φ_x - geogr. latitude in deg.
 δ - declination of the Moon in degrees
 t - hour angle in degrees

Operators using polar mounting can read the hour angle on the main rotatable axis of the antenna while those using El-Az mounting will find the hour angle converted into time in hours on the same axis in the graph in Fig.1. (Average orbit length of 24.85 hours is introduced.) It does not matter if the declination is positive or negative. For determination of the starting point one should know the time of culmination of the Moon in one's particular location (eg. according to an annual astronomical handbook).

Simplified formula for $\Delta f_{E_{\text{max}}}$ ($t = 90 \text{ deg.}$);

$$\Delta f_{E_{\text{max}}} = \frac{926 \cos \varphi_x \cos \delta}{\lambda}$$

For the 50th parallel (for which the graph in Fig.1 is given) we obtain:

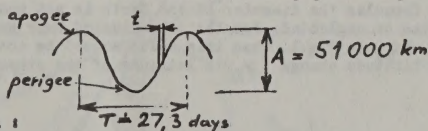
$$432 \text{ MHz: } \Delta f_{E_{\text{max}}} = 865 \text{ Hz}; \quad 1296 \text{ MHz: } \Delta f_{E_{\text{max}}} = 2590 \text{ Hz}$$

These values are positive at the Moonrise and negative at the Moonset. Stations having latitude (φ_x) other than 50 degrees should multiply the graph indication (Δf_E) by coefficient k for latitude change. (The value is the same for northern as well as for southern hemisphere.)

$$k = \frac{\cos \varphi_x}{\cos 50 \text{ deg}} = 1.56 \cos \varphi_x$$

$\Delta f_{E_{\text{EX}}}$, (which stands for Δf_E at latitude φ_x), can be read from Fig.3. ($\Delta f_{E_{\text{EX}}} = k \cdot \Delta f_E$)

- 2/ Influence accounted for the motion of the Moon between apogee and perigee (Fig.2)



Max. velocity of the Moon :

$$v_{\text{max}} = \frac{A}{2} \times \frac{2\pi}{T} \times \cos \frac{2\pi}{T} t \quad \text{from where we get } v_{\text{max}} = 68 \text{ metres/sec}$$

Influence of the Moon on frequency: $\Delta f_M = \frac{2v}{\lambda}$

This influence amounts on 432 MHz to $\Delta f_{M_{\text{max}}} = 196 \text{ Hz}$ and on 1296 MHz to $\Delta f_{M_{\text{max}}} = 598 \text{ Hz}$.

These values are the same for all terrestrial stations. When the Moon is going from apogee to perigee these values are positive, while in the opposite direction they are negative. So that we can find out the values of Δf_M the date of apogee and perigee should be known (again from an astron. handbook etc.)

Example: Our station is located on the 40th parallel ($\varphi_x = 40^\circ$), freq. is 1296.030 MHz date is 12th August, time 1020 local time. From an astronomical handbook we have found out that the declination of the Moon is 10° , the Moon culminated at 0650 local time and apogee was on

2nd August. We want to know the frequency of own echoes.

It is 4.5 hours after culmination - for this and 10° declination we find in Fig.1 $\Delta f_E = -2.2$ kHz.

For latitude different from 50° we convert this indication with the help of Fig.3 to $\Delta f_{EX} = -2.6$ kHz.

From Fig.2 we can read for 10 days after apogee $\Delta f_M = +0.42$ kHz.

Total shift: $\Delta f = \Delta f_{EX} + \Delta f_M = (-2.6) + 0.42 = -2.18$ kHz freq. of echoes is:
1296.02732 MHz

B. Shift of frequency (Δf_X) of the other station (X)

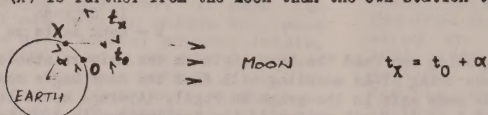
$$\Delta f_X = -\frac{\Delta f_{EO}}{2} + \frac{\Delta f_{EX}}{2} + \Delta f_M$$

where: Δf_{EO} - shift of one's own freq. caused by the Earth
 Δf_M - freq. shift caused by the Moon (Fig.2)
 Δf_{EX} - shift of freq. of the other station caused by the Earth

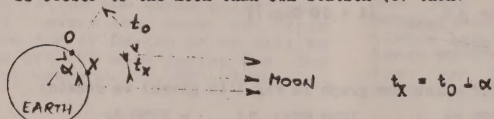
For Δf_{EX} however, we must know the geographical coordinates of the other station. The angle α is the difference between geographical longitudes of both stations.

Simplified determination of the hour angle t_X of the other station:

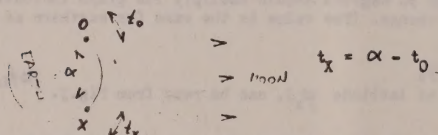
- a) If both stations see the Moon either rising or setting and the other station (X) is further from the Moon than the own station then:



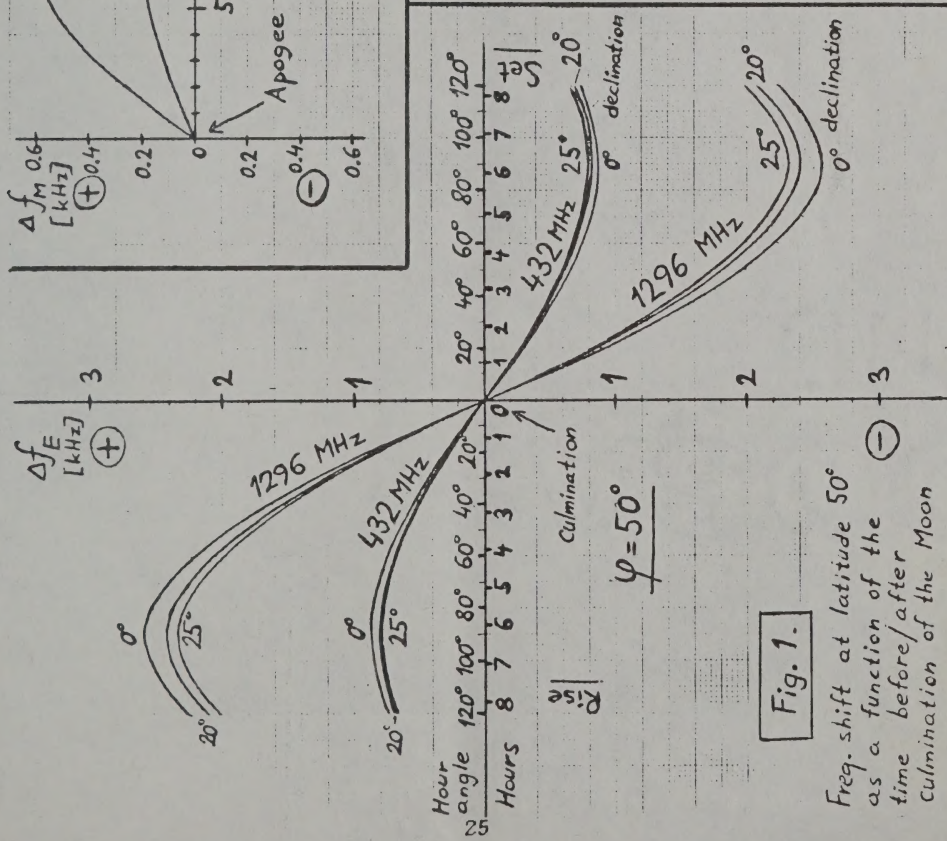
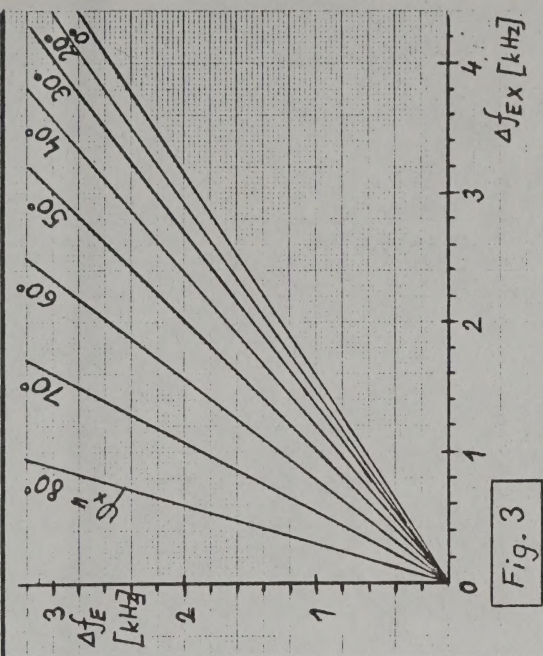
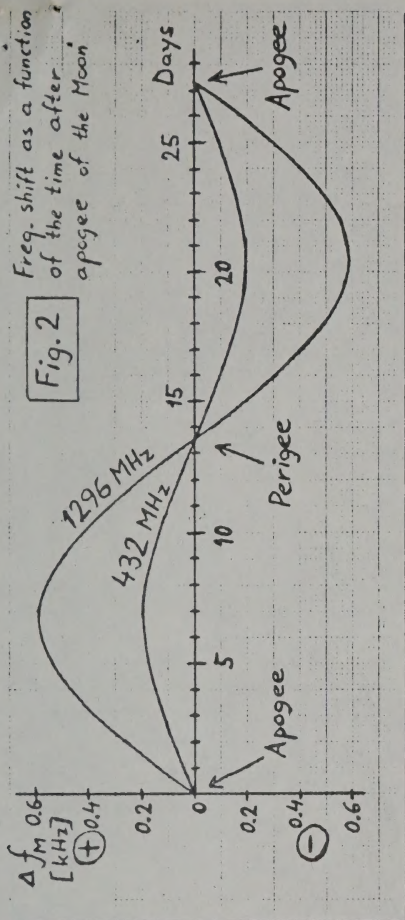
- b) If both stations see the Moon either rising or setting and the other station (X) is closer to the Moon than own station (O) then:



- c) If the Moon is between the stations X and O then:



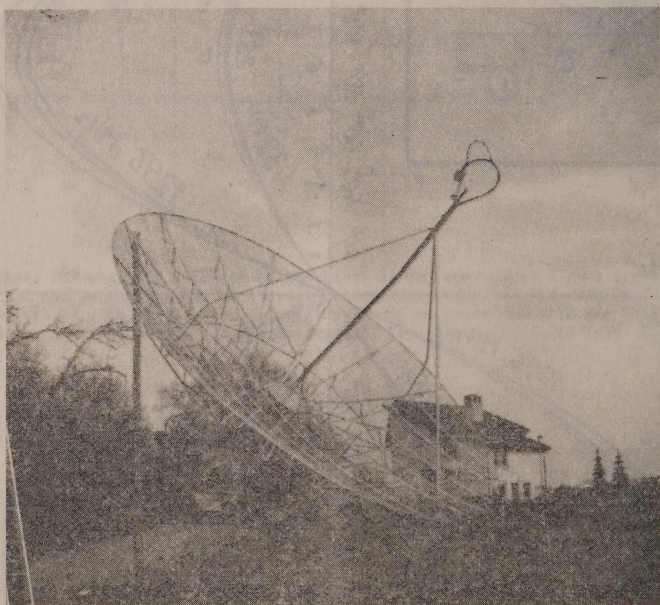
In the above formulas the diameter of the Earth is not considered - max. error is 0.5° and can be neglected. For the determined hour angle t_X we must read the value of Δf_{E1} in Fig.1. Then this value should be converted with the help of Fig.3 for latitude change (φ_X is latitude of the other station X) into f_{EX} .



Freq. shift at latitude 50° as a function of the time before/after Culmination of the Moon



HB9BM'S DISH UNDER CONSTRUCTION
DURING THE WINTER



HB9BM'S NEW DISH